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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/696,432	10/29/2003	Ying-Lang Wang	TS01-167CB	6825

7590 12/28/2004

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EXAMINER	
BEREZNY, NEMA O	

ART UNIT	PAPER NUMBER
2813	

DATE MAILED: 12/28/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/696,432	WANG ET AL.	
	Examiner	Art Unit	
	Nema O. Berezny	2813	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *17-26* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *17-26* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *29 October 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *01292004*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claims 17-26 are currently pending; cancellation of claims 1-16 and 27-30 is acknowledged.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> **A person shall be entitled to a patent unless –**
>
> **(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.**

Claims 17, 19 and 21 are rejected under 35 U.S.C. 102(e) as being anticipated by Andreas (6,358,325). Andreas discloses a surface treatment process, comprising: providing a hydrophillic surface; polishing said surface with a slurry that comprises a suspension of abrasive particles in deionized water and TMAH, whereby said surface is rendered hydrophobic (col.3 lines 45-48, 63-65; col.4 lines 34-43); and thereby causing all of said abrasive particles to be removed when said surface is rinsed in deionized water (col.4 lines 43-46) **[claim 17]**. Andreas also discloses wherein said abrasive particles are selected from the group consisting of alumina and silica (col.4 lines 43-46) **[claim 19]**; and wherein said hydrophilic surface is selected from the group consisting of tungsten, silicon oxide, and copper (col.3 lines 63-65) **[claim 21]**.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 18, 22-24, and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Andreas as applied to claims 17, 19, and 21 above, and further in view of Grieger et al. (6,468,951). Andreas does not disclose TBAH, or a TMAH concentration of 2-20%. However, Andreas would look to one such as Grieger for a cleaning composition because Grieger discloses a polishing slurry comprising TBAH (col.6 line 7). Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to use the TBAH of Grieger with the process of Andreas for an effective cleaning composition (col.6 lines 8-15) **[claim 22]**. Andreas would also look to one such as Grieger for a TMAH concentration of 2-20% because Grieger discloses wherein the TMAH has a concentration in said deionized water of between about 2% and 20% (col.5 line 64 – col.6 line 2). Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to use the TMAH concentration of Grieger with the process of Andreas for an effective cleaning composition (col.6 lines 2-4) **[claims 18, 23]**.

Based upon the rejection of claim 22 above, Andreas discloses wherein said abrasive particles are selected from the group consisting of alumina and silica (col.4

lines 43-46) **[claim 24]**; and wherein said hydrophilic surface is selected from the group consisting of tungsten, silicon oxide, and copper (col.3 lines 63-65) **[claim 26]**.

Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Andreas as applied to claim 17 above, and further in view of Kirschner (5,509,971). Andreas does not disclose an abrasive particle size of 1-10,000 microns. However, Andreas would look to one such as Kirschner for adequate surface removal because Kirschner discloses wherein said abrasive particles have a mean diameter of between about 1 and 10,000 microns (col.4 lines 32-35). Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to use the particle size of Kirschner with the process of Andreas in order to provide adequate surface removal of the substrate (col.4 lines 35-42).

Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over Andreas in view of Grieger as applied to claim 22 above, and further in view of Kirschner (5,509,971). Andreas and Grieger do not disclose an abrasive particle size of 1-10,000 microns. However, Andreas and Grieger would look to one such as Kirschner for adequate surface removal because Kirschner discloses wherein said abrasive particles have a mean diameter of between about 1 and 10,000 microns (col.4 lines 32-35). Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to use the particle size of Kirschner with the process of Andreas and

Grieger in order to provide adequate surface removal of the substrate (col.4 lines 35-42).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nema O. Berezny whose telephone number is (571) 272-1686. The examiner can normally be reached on M-F 9-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Carl Whitehead, Jr. can be reached on (571) 272-1702. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

NB

Nema Berezny